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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO.           | CONFIRMATION NO.       |
|---|-------------|-----------------------|-------------------------------|------------------------|
| 10/718,505  | 11/20/2003  | Ronald D. McCallister | 1826-310CIPRI                 | 1245                   |
| 7590<br>Lowell W Gresham<br>Meschkow & Gresham PLC<br>5727 North Seventh Street<br>Suite 409<br>Phoenix, AZ 85014 |             |                       | EXAMINER<br>CORRIELUS, JEAN B |                        |
|   |             |                       | ART UNIT<br>2611              | PAPER NUMBER           |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/718,505

Applicant(s)

MCCALLISTER ET AL.

Examiner

Jean B Corrielus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters; prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-11 and 13-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-11 and 13-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/6/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/11/07 has been entered.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 21-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 21, recites the delay is a "fixed delay". However, the specification, as filed, does not provide proper support for such limitation as claimed. The same comment applies to claims 22 and 23.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 2-5, 8-11, 13-16, 18, 20-23 are rejected under 35 U.S.C. 102(a) as being anticipated by May et al.

As per claim 2, May teaches a transmitter circuit see page 2474, col. 1, line 4 comprising inherently a modulated signal generator for generating a first modulated signal  $s(t)$  (note that in order to generate the modulated signals  $(t)$  a generator has to be used) conveying to be communicated data having a first bandwidth and having a first peak-to-average amplitude ratio see page 2474, col. 2, lines 2-8 and page 2475, col. 1, lines 36-38; generating a constrained bandwidth error signal  $K(t)$  in response to said first modulated signal  $s(t)$  (note that in order to generate the error signal  $K(t)$ , a constrained envelope generator has to be used, hence such an element is inherent in May et al) see page 2475, col. 2, line 1; combining said error signal  $K(t)$  with the modulated signal  $s(t)$  see page 2475, col. 2, last three equations (note that in order to combine the signal a combining circuit has to be used, hence a combining circuit is inherent in May) to produce a second modulated signal conveying said to be communicated data having said first BW and said first PAR see page 2475, col. 1 section B- page 2476, col. 1, first full paragraph. In addition, as noted in the inventor submission filed on 7/5/05, a delay coupled between said modulated signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal, is inherent. The inventor further notes (in a

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submission under 37 C.F.R. 1.56, dated 8/28/06 in sister application S/N 10/718,507, copy of which is attached,) that the May reference teaches the linerarizer limitation.

As per claim 3, May teaches that the error signal exhibits a BW equal to or less than said first BW see for instance fig. 3 and page 2476 bottom of col. 2.

As per claim 4, peaking unit intervals inherently occur when said first modulation signal exhibits magnitudes greater than a threshold; said constrained bandwidth error signal includes error burst for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval said delay element inherently delays said first modulated signal so that error burst peaks substantially temporally coincide with said peaking unit intervals. See fig. 2.

As per claim 5, said error burst peaks exhibit amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceeds said threshold

As per claim 8, note that in order to generate the error signal  $K(t)$ , a pulse generator has to be used. Hence, a pulse generator is inherently provided by May note the error signal is filtered using a filter see page 2475, col. 1, section B, lines 13-15.

As per claim 9, a pulse is generated when the modulated signal exhibits a magnitude greater than a threshold see fig. 2.

As per claim 10 said pulse exhibits an amplitude which is responsive to a value by which said first modulated signal exhibits said magnitude greater than said threshold see fig. 2 and page 2475, col. 2, last three equations.

As per claim 11, see claim 2.

As per claim 13, see claim 3.

As per claim 14, see claim 2.

As per claim 15, see claim 4.

As per claim 16, see claim 5.

As per claim 18, see claim 2.

As per claim 20, see claim 4.

As per claim 21, applicant submission filed on July 6, 2005 stated that the delay in May et al is half the pulse shape duration (i.e. fixed).

As per claim 22, see claim 21.

As per claim 23, see claim 21.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6, 7, 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al in view of Hedberg et al US patent No. 6,266,320.

May teaches a transmitter circuit see page 2474, col. 1, line 4 comprising inherently a modulated signal generator for generating a first modulated signal s (t) (note that in order to generate the modulated signals (t) a generator has to be used) conveying to be communicated data having a first bandwidth and having a first peak-to-average amplitude ratio see page 2474, col. 2, lines 2-8 and page 2475, col. 1, lines 36-38; generating a constrained bandwidth error signal K (t) in response to said first

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modulated signal  $s(t)$  (note that in order to generate the error signal  $K(t)$ , a constrained envelope generator has to be used, hence such an element is inherent in May et al) see page 2475, col. 2, line 1; combining said error signal  $K(t)$  with the modulated signal  $s(t)$  see page 2475, col. 2, last three equations (note that in order to combine the signal a combining circuit has to be used, hence a combining circuit is inherent in May) to produce a second modulated signal conveying said to be communicated data having said first BW and said first PAR see page 2475, col. 1 section B- page 2476, col. 1, first full paragraph. In addition, as noted in the inventor submission filed on 7/5/05, a delay coupled between said modulated signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal, is inherent. Furthermore, at a page 2474 col. 2, section A-page 2475, line 1 May teaches transmitting the signals simultaneously using a plurality of codes. It does not explicitly teach that a CDMA modulator is used. However, as evidence by Hedberg et al, it is well know in the art to use a CDMA modulator to generate a plurality of code channels see fig. 2, for instance. Given that fact, it would have been obvious to one skill in the art to implement the generator as a CDMA modulator as taught by Hedberg et al so as to be compatible with system(s) that uses CDMA technology.

As per claim 7, note that Hedberg teaches that the modulator includes a Nyquist pulse shaping (spreading) filter 120a. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in May et al and the motivation to do so would have been the same as provided with respect to claim 6.

As per claim 17, see claim 6.

As per claim 19, see claim 6.

### ***Claim Objections***

8. Claims 3 and 9 are objected to because of the following informalities: claim 3, line 2, "envelope" is mistyped as "envelop&". Claim 9 should be terminated by a ":". Appropriate correction is required.

### ***Response to Arguments***

9. Applicant's arguments filed 6/11/07 have been fully considered but they are not persuasive. Applicant argues that May only teaches a non-linear amplifier as oppose of a linear amplifier as recited in the claims. However, it is noted that May clearly show a waveform (See May's reference page 2474, fig. 1) which is linear up to the saturation point, hence the May's reference teaches a linear amplifier. Hence, any other argument directed towards the linearizing limitation is moot in view of such a teaching. In addition, the argument with respect to Dent is moot in view of the above new ground of rejection. Applicant further argues that even if May inherently disclosed the delay limitation as set forth in the claims, which it does not, May would not enable one of ordinary skill in the art to carry the claimed invention. Such point of argument is not convincing because the May reference would enable one skill in the art to design a circuit that would include a delay device to implement the teaching at page 2475, second col., last three equations that requires the signal to be delayed. The argument made with respect to claims 6, 7, and 17 is moot in view of the above new ground of rejection.



***Response to Amendment***


9. The Declaration under 37 CFR 1.132 filed 6/11/07 is insufficient to overcome the rejection of claims 2-11, 13-20 based upon the inventor's submission filed on 7/6/05 and 8/28/06 as set forth in the last Office action because after further consideration of the May reference, it is the examiner's position that the May reference clearly teach the use of a linear amplifier. See May's reference page 2474, fig. 1 in which fig. 1 shows a waveform which is linear up to the saturation point. Hence the May's reference teaches the use of a linear amplifier. In addition the affidavit alleged that feeding May's modulated signal through a **fixed** delay will not correctly aligned the amplitude peaks. Such argument suggests at least that a **non-fixed delay** is used in the May's reference therefore implementing a fixed delay (inherently taught by the May reference) in the May's system could be easily done without undue experimentation.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jean B Corrielus  
Primary Examiner  
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1-13-07